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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,169	06/30/2000	Takayuki Urata	43890-436	9745

7590 01/27/2004  
McDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

A-5-17

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/608,169	URATA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marc A Patterson	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:                                          |

## DETAILED ACTION

### WITHDRAWN REJECTIONS

1. The 35 U.S.C. 112 second paragraph rejection of Claim 1, of record on page 2 of the previous Action, is withdrawn.

The 35 U.S.C. 112 second paragraph rejections of Claims 2 – 4 and 13 – 16, of record on page 3 of the previous Action, are withdrawn.

The 35 U.S.C. 102(b) rejection of Claim 1, as being anticipated by Awata (U.S. Patent No. 5,866,228), of record on page 4 of the previous Action, is withdrawn.

### NEW REJECTIONS

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 3 and 13 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awata (U.S. Patent No. 5,866,228) in view of The Encyclopedia of Polymer Science and Engineering (Volume 12, page 225, 1985).

Awata teaches an insulator comprising a plastic film comprising polyethylene terephthalate as discussed above. With regard to Claims 1 – 3 and 13 – 15, Awata discloses a vacuum heat insulator (therefore an insulator for an insulating device; column 2, line 2) comprising a laminate bag (column 4, lines 15 – 23) and an insulating core placed in the laminate

Art Unit: 1772

bag (calcium silicate; column 4, lines 44 – 49) wherein the inside of the laminate bag is evacuated to vacuum (column 4, lines 44 – 54), the laminate bag is made of a laminate film comprising a first support layer, second deposition layer placed at the surface of the support layer, third protective layer (polyethylene terephthalate; column 6, lines 40 – 56) and fourth seal layer (column 4, lines 36 – 43); the deposition layer comprises aluminum (column 4, lines 30 – 35), and the laminate bag comprises a seal portion (it is heat sealed; column 4, lines 36 – 43).

With regard to the claimed aspect of the seal portion being ‘formed by junction of the seal layer and the laminate film,’ the scope of the claims falls within the limitations of Awata as discussed above. The method of making (forming) the seal is given little patentable weight. Awata fails to disclose a protective layer having a glass transition temperature of 87 degrees Celsius or higher.

However, The Encyclopedia of Polymer Science and Engineering (Volume 12, page 225, 1985) teaches that polyethylene terephthalate polymers have glass transition temperatures ranging from 67 – 140 degrees Celsius (The Encyclopedia of Polymer Science and Engineering, Volume 12, page 225; final paragraph, ‘Thermal Transitions’). Awata et al therefore disclose a protective layer having a glass transition temperature ranging from 67 – 140 degrees Celsius. Therefore, the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the glass transition temperature, since the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by The Encyclopedia of Polymer Science and Engineering, in the absence of unexpected results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

4. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awata (U.S. Patent No. 5,866,228) in view of Cheng et al (U.S. Patent No. 4,745,015).

Awata discloses an insulator comprising a plastic film comprising polyethylene terephthalate as discussed above. With regard to Claims 4 and 16, Awata fails to disclose a film comprising polycarbonate.

Cheng et al teach that polycarbonate is equivalent to polyethylene terephthalate (column 3, lines 7 – 38) for the purpose of making an insulator which is readily molded or shaped (column 3, lines 7 – 38). The desirability of providing for a film comprising polycarbonate in Awata, which is an insulator, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for polycarbonate in Awata in order to make an insulator which is readily molded or shaped as taught by Cheng et al.

#### ANSWERS TO APPLICANT'S ARGUMENTS

5. Applicant's arguments regarding the 35 U.S.C. 112 second paragraph rejection of Claim 1, of record on page 2 of the previous Action, 35 U.S.C. 112 second paragraph rejections of Claims 2 – 4 and 13 – 16 and 35 U.S.C. 102(b) rejection of Claim 1, as being anticipated by Awata (U.S. Patent No. 5,866,228) of record in the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn.

Applicant's arguments regarding the 35 U.S.C. 103(a) rejection of Claims 2 – 3 and 13 – 15 as being unpatentable over Awata (U.S. Patent No. 5,866,228) in view of The Encyclopedia of Polymer Science and Engineering (Volume 12, page 225, 1985) and 35 U.S.C. 103(a)

Art Unit: 1772

rejection of Claims 4 and 16 as being unpatentable over Awata (U.S. Patent No. 5,866,228) in view of Cheng et al (U.S. Patent No. 4,745,015), of record in the previous Action, have been carefully considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on page 17 of Paper No. 16, that Awata appears to fail to disclose either the claimed first support layer, third protective layer or the second deposition layer. However, as stated above, the laminate bag disclosed by Awata is made of a laminate film comprising a first support layer, second deposition layer placed at the surface of the support layer and third protective layer (polyethylene terephthalate; column 6, lines 40 – 56); the deposition layer comprises aluminum (column 4, lines 30 – 35) and the first support layer comprises polyester film (column 4, lines 24 – 29).

Applicant also argues, on page 18, that The Encyclopedia of Polymer Science and Engineering teaches a polyethylene terephthalate having a glass transition temperature range from 67 – 140 degrees Celsius, and therefore teaches polyethylene terephthalate films having glass transition temperatures greater than and less than 87 degrees Celsius. However, as stated above, the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the glass transition temperature, since the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by The Encyclopedia of Polymer Science and Engineering, in the absence of unexpected results.

Applicant also argues, on page 19, that motivation for combining the references is flawed because there is no suggestion that the device disclosed in Awata is not commercially available.

Art Unit: 1772

However, the rejection is intended to state that polyethylene terephthalate polymers having glass transition temperatures greater than and less than 87 degrees Celsius are well – known in the art, and that the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product.


Applicant also argues, on page 20, that there is no basis for asserting that Awata's device is not commercial grade. However, as stated above the rejection is intended to state that polyethylene terephthalate polymers having glass transition temperatures greater than and less than 87 degrees Celsius are well – known in the art, and that the glass transition temperature would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product.

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

*Marc Patterson*  
Art Unit 1772

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

*1/22/04*